**BIOLOGY SCHEMES OF WORK FORM 4**

**TERM 2**

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **T/L ACTIVITIES** | **T/L AIDS** | **REFERENCE** | **REM** |
| 1 | **Opening of School**  |
| 2 | 1 | EVOLUTION  | Meaning of evolution. Theories of origin of life.  | By the end of the lesson, the learner should be able to: Define evolution.Explain the theories of life.  | Brain storming;Probing questions;Q/A on creation theory;Exposition of chemical theory. | text book  | KLB BK IV. PP 49-51  |  |
| 2 | EVOLUTION  | Evidence for organic evolution.  | By the end of the lesson, the learner should be able to: Cite evidence for organic evolution.  | Brain storming;Probing questions;Exposition;Discussion. | text book  | KLB BK IV. PP 51-59  |  |
| 3 | EVOLUTION  | Evidence for organic evolution.  | By the end of the lesson, the learner should be able to: Cite evidence for organic evolution.  | Brain storming;Probing questions;Exposition;Discussion. | text book  | KLB BK IV. PP 51-59  |  |
| 4 | EVOLUTION  | Comparative anatomy and homologous structures.  | By the end of the lesson, the learner should be able to: Define divergent evolution.Give examples of homologous structures.  | Examine forelimbs of vertebrates;Discuss adaptations and use of the limbs.  | Forelimbs of vertebrates.  | KLB BK IV. PP 59-63  |  |
| 5 | EVOLUTION  | Comparative anatomy and homologous structures.  | By the end of the lesson, the learner should be able to: Define divergent evolution.Give examples of homologous structures.  | Examine forelimbs of vertebrates;Discuss adaptations and use of the limbs.  | Forelimbs of vertebrates.  | KLB BK IV. PP 59-63  |  |
| 3 | 1 | EVOLUTION  | Comparative anatomy and homologous structures. (contd)  | By the end of the lesson, the learner should be able to: Define divergent evolution.Give examples of homologous structures.  | Examine forelimbs of vertebrates;Discuss adaptations and use of the limbs.  | Forelimbs of vertebrates.  | KLB BK IV. PP 59-63  |  |
| 2 | EVOLUTION  | Comparative anatomy and homologous structures. (contd)  | By the end of the lesson, the learner should be able to: Define divergent evolution.Give examples of homologous structures.  | Examine forelimbs of vertebrates;Discuss adaptations and use of the limbs.  | Forelimbs of vertebrates.  | KLB BK IV. PP 59-63  |  |
| 3 | EVOLUTION  | Convergent evolution and analogous structures.  | By the end of the lesson, the learner should be able to: Define convergent evolution.Give examples of analogous structures.Give examples of vestigial structures.  | Examine wings of insects; wings of birds / bat.Discuss observations. | Wings of insects, wings of birds / bat.  | KLB BK IV. PP 63-64  |  |
| 4 | EVOLUTION  | Convergent evolution and analogous structures.(contd)  | By the end of the lesson, the learner should be able to: Define convergent evolution.Give examples of analogous structures.Give examples of vestigial structures.  | Examine wings of insects; wings of birds / bat.Discuss observations. | Wings of insects, wings of birds / bat.  | KLB BK IV. PP 63-64  |  |
| 5 | EVOLUTION  | Convergent evolution and analogous structures.(contd)  | By the end of the lesson, the learner should be able to: Define convergent evolution.Give examples of analogous structures.Give examples of vestigial structures.  | Examine wings of insects; wings of birds / bat.Discuss observations. | Wings of insects, wings of birds / bat.  | KLB BK IV. PP 63-64  |  |
| 4 | 1 | EVOLUTION  | Larmack?s theory of evolution.  | By the end of the lesson, the learner should be able to: Explain Larmack?s theory of evolution.  | Expositions and explanations. | text book  | KLB BK IV. P 67  |  |
| 2 | EVOLUTION  | Darwin?s theory of natural selection.  | By the end of the lesson, the learner should be able to: Explain Darwin?s theory of natural selection.Cite examples of natural selection in action.  | Expositions and explanations;Probing questions;Topic review. | text book  | KLB BK IV. PP 67-72  |  |
| 3 | EVOLUTION  | Darwin?s theory of natural selection.  | By the end of the lesson, the learner should be able to: Explain Darwin?s theory of natural selection.Cite examples of natural selection in action.  | Expositions and explanations;Probing questions;Topic review. | text book  | KLB BK IV. PP 67-72  |  |
| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | Meaning of stimulus, response and irritability. Tactic responses.  | By the end of the lesson, the learner should be able to: Define of stimulus, response and irritability.Explain the need for sensitivity and response.Identify types of tactics responses. | Brain storming;Exposition;Group experiments-chemotaxis in termites;Discussion. | Brad crumbs, termites, dry sand, moth balls.  | KLB BK IV. PP 73-74  |  |
| 5 | RECEPTION, RESPONSE & CO-ORDINATION  | Meaning of stimulus, response and irritability. Tactic responses.  | By the end of the lesson, the learner should be able to: Define of stimulus, response and irritability.Explain the need for sensitivity and response.Identify types of tactics responses. | Brain storming;Exposition;Group experiments-chemotaxis in termites;Discussion. | Brad crumbs, termites, dry sand, moth balls.  | KLB BK IV. PP 73-74  |  |
| 5 | 1 | RECEPTION, RESPONSE & CO-ORDINATION  | Tropism and types of tropism.  | By the end of the lesson, the learner should be able to: Identify types of tropism.State differences between tropisms and taxes.  | Examine previous plant set ?ups on response to light, gravity;Probing questions and discussion.  | Seedlings, klinostat, corked beaker.  | KLB BK IV. PP 74-78  |  |
| 2 | RECEPTION, RESPONSE & CO-ORDINATION  | Tropism and types of tropism.  | By the end of the lesson, the learner should be able to: Identify types of tropism.State differences between tropisms and taxes.  | Examine previous plant set ?ups on response to light, gravity;Probing questions and discussion.  | Seedlings, klinostat, corked beaker.  | KLB BK IV. PP 74-78  |  |
| 3 | RECEPTION, RESPONSE & CO-ORDINATION  | Nastic responses.  | By the end of the lesson, the learner should be able to: Identify types of nastic responses  | Q/A and discussion.  | text book  | KLB BK IV. PP 78-80  |  |
| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | Role of auxins in tropisms.  | By the end of the lesson, the learner should be able to: Explain the role of auxins in tropisms.  | Examine previous plant set ?ups on response to light, gravity; contact;Probing questions and discussion.  | text book  | KLB BK IV. PP 80-83  |  |
| 5 | RECEPTION, RESPONSE & CO-ORDINATION  | Role of auxins in tropisms.  | By the end of the lesson, the learner should be able to: Explain the role of auxins in tropisms.  | Examine previous plant set ?ups on response to light, gravity; contact;Probing questions and discussion.  | text book  | KLB BK IV. PP 80-83  |  |
| 6 | 1 | RECEPTION, RESPONSE & CO-ORDINATION  | Response and Co-ordination in animals. The nervous system.  | By the end of the lesson, the learner should be able to: State components of the nervous system.Describe the structure of nerve cells.  | Descriptive and expository approaches.  | Illustrative diagrams.  | KLB BK IV. PP 84-85  |  |
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| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | Types of neurons. The brain.  | By the end of the lesson, the learner should be able to: Identify types of neurons.Describe structure of the human brain.  | Descriptive and expository approaches.  | Illustrative diagrams.  | KLB BK IV. PP 85-88  |  |
| 5 | RECEPTION, RESPONSE & CO-ORDINATION  | Reflex actions.  | By the end of the lesson, the learner should be able to: Differentiate between simple and conditioned reflex actions.  | Illustrate a simple reflex arc.Probing questions on differences between simple and conditioned reflex actions.  | Illustrative diagrams.  | KLB BK IV. PP 88-90  |  |
| 7 | **Mid Term Exam and Break**  |
| 8 | 1 | RECEPTION, RESPONSE & CO-ORDINATION  | Transmission of a nerve impulse.  | By the end of the lesson, the learner should be able to: Describe the transmission of a nerve impulse.  | Descriptive and expository approaches.  | Illustrative diagrams.  | KLB BK IV. PP 90-93  |  |
| 2 | RECEPTION, RESPONSE & CO-ORDINATION  | Transmission of a nerve impulse.  | By the end of the lesson, the learner should be able to: Describe the transmission of a nerve impulse.  | Descriptive and expository approaches.  | Illustrative diagrams.  | KLB BK IV. PP 90-93  |  |
| 3 | RECEPTION, RESPONSE & CO-ORDINATION  | The endocrine system.  | By the end of the lesson, the learner should be able to: Identify components of endocrine system.Compare endocrine system. With nervous system.  | Discussion; tabulate the differences.  | Illustrative diagrams.  | KLB BK IV. PP 93-6  |  |
| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | The mammalian eye.  | By the end of the lesson, the learner should be able to: Identify major parts of the human eye.Explain image formation and interpretation in the eye.  | Brain storming;Discussion with probing questions.  | Chart- the human eye.  | KLB BK IV. PP 93-100  |  |
| 5 | RECEPTION, RESPONSE & CO-ORDINATION  | The mammalian eye.  | By the end of the lesson, the learner should be able to: Identify major parts of the human eye.Explain image formation and interpretation in the eye.  | Brain storming;Discussion with probing questions.  | Chart- the human eye.  | KLB BK IV. PP 93-100  |  |
| 9 | 1 | RECEPTION, RESPONSE & CO-ORDINATION  | Accommodation of the eye.  | By the end of the lesson, the learner should be able to: Explain the role of ciliary muscles in accommodation of the eye.  | Discussion with probing questions,Drawing illustrative diagrams. | Chart- focusing far and near points.  | KLB BK IV. PP 100-1  |  |
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| 3 | RECEPTION, RESPONSE & CO-ORDINATION  | Accommodation of the eye.  | By the end of the lesson, the learner should be able to: Explain the role of ciliary muscles in accommodation of the eye.  | Discussion with probing questions,Drawing illustrative diagrams. | Chart- focusing far and near points.  | KLB BK IV. PP 100-1  |  |
| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | Defects of vision and their correction.  | By the end of the lesson, the learner should be able to: Identify defects of vision.Explain correction of vision defects.  | Detailed discussion with probing questions;Drawing illustrative diagrams. | Illustrative diagrams.  | KLB BK IV. PP 101-4  |  |
| 5 | RECEPTION, RESPONSE & CO-ORDINATION  | The human ear.  | By the end of the lesson, the learner should be able to: Identify major parts of the human ear. | Descriptive and expository approaches.Drawn diagrams.  | Illustrative diagrams.  | KLB BK IV. PP 104-5  |  |
| 10 | 1 | RECEPTION, RESPONSE & CO-ORDINATION  | Hearing.  | By the end of the lesson, the learner should be able to: Explain how the ear perceives sound.  | Descriptive and expository approaches. | Illustrative diagrams.  | KLB BK IV. P 106  |  |
| 2 | RECEPTION, RESPONSE & CO-ORDINATION  | Body balance and posture.  | By the end of the lesson, the learner should be able to: Explain how the ear maintains body balance and posture.  | Descriptive and expository approaches. |  | KLB BK IV. PP 107-8  |  |
| 3 | RECEPTION, RESPONSE & CO-ORDINATION  | Body balance and posture.  | By the end of the lesson, the learner should be able to: Explain how the ear maintains body balance and posture.  | Descriptive and expository approaches. |  | KLB BK IV. PP 107-8  |  |
| 4 | RECEPTION, RESPONSE & CO-ORDINATION  | Defects of the ear.  | By the end of the lesson, the learner should be able to: Identify some defects of the ear.  | Descriptive and expository approaches. | text book  | KLB BK IV. P 108  |  |
| 5 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Importance of support and movement in plants.  | By the end of the lesson, the learner should be able to: Explain the importance of support and movement in plants.  | Brain storming;Probing questions;Discussion.  | text book  | KLB BK IV. PP 111-2  |  |
| 11 | 1 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Arrangement of tissues in a monocotyledonous stem.  | By the end of the lesson, the learner should be able to: Draw and label a transverse section of a monocotyledonous stem.  | Examine transverse section of a monocotyledonous stem.  | Monocotyledo-nous stem, eg. tradescantia, microscope,Razors.  | KLB BK IV. PP111-2.  |  |
| 2 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Arrangement of tissues in a dicotyledonous stem.  | By the end of the lesson, the learner should be able to: Draw and label a transverse section of a dicotyledonous stem. Draw and label a transverse section of herbaceous and woody stems. | Examine transverse section of a dicotyledonous stem, herbaceous and woody stems.  | Herbaceous stem, microscope, slides,Razors.  | KLB BK IV. PP 111-5  |  |
| 3 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Arrangement of tissues in a dicotyledonous stem.  | By the end of the lesson, the learner should be able to: Draw and label a transverse section of a dicotyledonous stem. Draw and label a transverse section of herbaceous and woody stems. | Examine transverse section of a dicotyledonous stem, herbaceous and woody stems.  | Herbaceous stem, microscope, slides,Razors.  | KLB BK IV. PP 111-5  |  |
| 4 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Stem tissues.  | By the end of the lesson, the learner should be able to: Identify some stem tissues.Explain the role of stem tissues.  | Drawing and labeling diagrams;Discussion.  | Illustrative diagrams.  | KLB BK IV. PP 113-5  |  |
| 5 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | Wilting in plants.  | By the end of the lesson, the learner should be able to: Compare the rate of wilting of herbaceous and woody stems. Account for difference in rate of water loss. | Uproot herbaceous and woody plants;Observe tem for about 30 min;Brief discussion. |  | KLB BK IV. P 116  |  |
| 12 | 1 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | The exoskeleton.  | By the end of the lesson, the learner should be able to: Describe the structure of the exoskeleton.  | Examine movement of a live arthropod;Observe muscles of the hind limb of a grasshopper;Relate the observations to the function of the exoskeleton. | A live arthropod,E.g. grasshopper, millipede.  | KLB BK IV. PP 116-7  |  |
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| 3 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | The exoskeleton.  | By the end of the lesson, the learner should be able to: Describe the structure of the exoskeleton.  | Examine movement of a live arthropod;Observe muscles of the hind limb of a grasshopper;Relate the observations to the function of the exoskeleton. | A live arthropod,E.g. grasshopper, millipede.  | KLB BK IV. PP 116-7  |  |
| 4 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | The endoskeleton.  | By the end of the lesson, the learner should be able to: Describe the structure of the endoskeleton. | Observe skeleton of a vertebrate;Compare it with an exoskeleton.Discuss the contrasting features. | The human skeleton. | KLB BK IV. PP 117-8  |  |
| 4-5 | SUPPORT & MOVEMENT IN PLANTS AND ANIMALS  | The endoskeleton.  | By the end of the lesson, the learner should be able to: Describe the structure of the endoskeleton. | Observe skeleton of a vertebrate;Compare it with an exoskeleton.Discuss the contrasting features. | The human skeleton. | KLB BK IV. PP 117-8  |  |
| 13-14 | **End Term Exam and Closing**  |